COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Bay State Gas Company	**D.T.E. 05-27**

ATTORNEY GENERAL'S SECOND SET OF
DOCUMENT AND INFORMATION REQUESTS

Supplemental Definitions:

As used below the phrase "proposed replacement program" shall mean the Company's proposed Steel Infrastructure Replacement ("SIR") program.

As used below the phrase "bare steel" shall not include coated steel without cathodic protection.

AG-2-1 For each of the years from 1990 to 2005, please provide the following:

a) the rate of corrosion leaks per mile for bare steel for the Company;
b) the rate of corrosion leaks per mile for bare steel for the each of the Company's separate service areas;
c) the rate of corrosion leaks per mile for coated steel without cathodic protection for the Company;
d) the rate of corrosion leaks per mile for coated steel without cathodic protection each of the Company's separate service areas; and,
e) plot the corrosion leaks on system maps for each of the Company's separate service areas.
f) provide all work papers, calculations and assumptions for (a)-(d).

AG-2-2 Label the level of soil corrosivity on the system maps produced in response to AG-2-1(e) for each of the Company's separate service areas.

AG-2-3 Produce copies of all reports, memorandums and analysis of soil corrosivity preformed before or during the installation of the bare steel mains and services that are the subject of the Company's proposed replacement program.

AG-2-4 Produce copies of all reports, memorandums and analysis related to soil corrosivity in the Company's service territories prepared by outside experts or consultants.

AG-2-5 Produce copies of all reports, memorandums and analysis related to soil corrosivity in the Company's service territories prepared by Company employees.

AG-2-6 Describe the Company's corrosion monitoring program for bare steel developed before or during the installation of the bare steel mains and services that are now the subject of the Company's proposed replacement program.

AG-2-7 Describe the Company's corrosion monitoring program for all types of materials (cast iron, bare steel, coated steel with cathodic protection, coated steel without cathodic protection and plastic) used in Company's distribution system by service area and provide the year when the program went into effect, the date of any changes, and the details of the sampling program for each type of material.

AG-2-8 Produce all Company training materials, employee handbooks and engineering guidelines that reference the corrosion monitoring program for the years 1995 to 2005.

AG-2-9 Produce copies of all reports, memorandums and analysis related to corrosion monitoring programs preformed before or during the installation of the mains and services that are now the subject of the Company's proposed replacement program.

AG-2-10 Produce copies of all reports, memorandums and analysis related to mains and services corrosion monitoring in the Company's service territories prepared by outside experts or consultants.

AG-2-11 Produce copies of all reports, memorandums and analysis related to mains and services corrosion monitoring in the Company's service territories prepared by Company employees.

AG-2-12 Describe the Company's replacement program related to bare steel corrosion developed before or during the installation of the bare steel mains and services that are now the subject of the Company's proposed replacement program.

AG-2-13 Describe the Company's replacement program for all types of materials (cast iron, bare steel, coated steel with cathodic protection, coated steel

without cathodic protection and plastic) used in Company's distribution system by service area and provide the year when the program went into effect, and the dates of any changes to the program.

AG-2-14 Produce all Company training materials, employee handbooks and engineering guidelines that reference the Company's mains and services replacement program for the years 1995 to 2005.

AG-2-15 Produce copies of all reports, memorandums and analysis related to the replacement program for bare steel corrosion preformed before or during the installation of the bare steel mains and services that are now the subject of the Company's proposed replacement program.

AG-2-16 Produce copies of all reports, memorandums and analysis related to the mains and services replacement program in the Company's service territories prepared by outside experts.

AG-2-17 Produce copies of all reports, memorandums and analysis related to the mains and services replacement program in the Company's service territories prepared by Company employees.

AG-2-18 Produce copies of all reports, memorandums and analysis related to any external causes of corrosion of the mains and services (including, but not limited to, proximity to other pipes, materials or sources of electricity) that are the subject of the Company's proposed replacement program.

AG-2-19 Describe the Company's efforts to monitor changes in corrosion rates related to changes in the external environment in close proximity to the pipe or service, including, but not limited to, the introduction of other pipes, new materials or sources of stray electricity.

AG-2-20 Produce copies of all reports, memorandums and analysis related to any internal causes of corrosion of the mains and services (including, but not limited to, moisture in the pipe) that are the subject of the Company's proposed replacement program.

AG-2-21 Describe the Company's efforts to monitor changes in corrosion rates related to changes in the internal conditions of the pipe, including, but not limited to, moisture in the pipe.

AG-2-22 By mains and service material type, describe a generally acceptable level of pipe moisture in the gas distribution industry for design engineering purposes.

AG-2-23 By mains and service material type, describe a generally acceptable level of pipe moisture in the gas distribution industry for operating purposes.

AG-2-24 For each of the system maps produced in response to AG-2-1(e), label the actual level of pipe moisture and city gate locations.

AG-2-25 Describe the Company's program to monitor pipe moisture in the pipes and mains that are the subject of the Company's proposed replacement program. State when that program first started, describe all changes to the program and the year the change occurred.

AG-2-26 Describe the Company's strategy to mitigate pipe moisture in the pipes and mains that are the subject of the Company's proposed replacement program. State when that program started, describe all changes to the program and the year the change occurred.

AG-2-27 Produce copies of all decisions and orders of the New Hampshire Public Utility Commission related to Northern Utilities problem with accelerated bare steel corrosion leaks. State whether the Northern Utilities program included the replacement of coated steel without cathodic protection.

AG-2-28 Identify all management and executive level individual(s) at both the Company and Northern Utilities, a Bay State subsidiary, responsible for corrosion monitoring and scheduling replacement of mains and services from 1985 to 2005.

AG-2-29 Produce all reports, memorandums and analysis concerning the cause of the corrosion and leak rate on Northern Utilities steel related to the orders produced in response to AG 2-27.

AG-2-30 Please identify the manufacture by name, address and phone number of the mains and services that are to be replaced by the Company's proposed replacement program.

AG-2-31 Describe the technical specifications of the mains or services purchased from each manufacturer listed in response to AG 2-30. Label on the maps produced in response to AG-2-1(e) the name of the manufacture of the mains and services and the date(s) by year of installation.

AG-2-32 Has the Company contacted the manufacture of the mains and services listed in the response to AG-2-30 to: a) evaluate the cause of the accelerating leak rate, b) discuss the possibility of manufacturing defects, or c) make a product warranty claim? Identify who at the manufacturer

was contacted and describe in detail the results of any discussion. Produce all documents related to contact with the manufacturers on topics (a) - (c).

AG-2-33 Please produce all documents from presentations and reports to state and federal regulators from 1995 to 2005 regarding the Company's pipe and services corrosion leaks.

AG-2-34 Create a bar graph with the years 1990 to 2005 along x-axis and Company costs of bare steel main replacement per year along the y-axis. Include all work papers, calculations and assumptions used to calculate the costs of bare steel main replacements per year.

AG-2-35 Create bar graphs with the years 1990 to 2005 along x-axis and the costs of bare steel main replacement per year along the y-axis for the Springfield, Lawrence and Brockton service territories. Include all work papers, calculations and assumptions used to calculate the costs of bare steel main replacements per year.

AG-2-36 Create a bar graph with the years 1990 to 2005 along x-axis and Company costs of bare steel services replacement per year along the y-axis. Include all work papers, calculations and assumptions used to calculate the costs of bare steel service replacements per year.

AG-2-37 Create bar graphs with the years 1990 to 2005 along x-axis and the costs of bare steel services replacement per year along the y-axis for the Company's service territories in the cities of Springfield, Lawrence and Brockton. Include all work papers, calculations and assumptions used to calculate the costs of bare steel services per year for each of the cities.

AG-2-38 Create a bar graph with the years 1990 to 2005 along x-axis and Company number of bare steel main abandonments per year along the y-axis. Include all work papers, calculations and assumptions used to calculate the number of bare steel mains abandonments per year.

AG-2-39 Create bar graphs with the years 1990 to 2005 along x-axis and the numbers of bare steel main abandonments per year along the y-axis for the Company's service territories in the cities of Springfield, Lawrence and Brockton. Include all work papers, calculations and assumptions used to calculate the number of bare steel mains abandonments per year for each of the cities.

AG-2-40 Create bar graphs with the years 1990 to 2005 along x-axis and Company number of bare steel services abandonments per year along the y-axis for

the Company's Springfield, Lawrence and Brockton service territories.. Include all work papers, calculations and assumptions used to calculate the number of bare steel service replacements per year.

AG-2-41 Create a bar graph with the years 1990 to 2005 along x-axis and Company costs of coated steel pipe without cathodic protection main replacements per year along the y-axis. Include all work papers, calculations and assumptions used to calculate the costs of these main replacements per year.

AG-2-42 Create bar graphs with the years 1990 to 2005 along x-axis and the costs of coated steel pipe without cathodic protection main replacements per year along the y-axis for the Springfield, Lawrence and Brockton service territories. Include all work papers, calculations and assumptions used to calculate the costs of these main replacements per year.

AG-2-43 Create a bar graph with the years 1990 to 2005 along x-axis and Company costs of coated steel without cathodic protection services replacements per year along the y-axis. Include all work papers, calculations and assumptions used to calculate the costs of these service replacements per year.

AG-2-44 Create bar graphs with the years 1990 to 2005 along x-axis and the costs of coated steel without cathodic protection services replacements per year along the y-axis for the Company's service territories in the cities of Springfield, Lawrence and Brockton. Include all work papers, calculations and assumptions used to calculate the costs of these services per year for each of the cities.

AG-2-45 Create a bar graph with the years 1990 to 2005 along x-axis and Company number of coated steel without cathodic protection main abandonments per year along the y-axis. Include all work papers, calculations and assumptions used to calculate the number of these mains abandonments per year.

AG-2-46 Create bar graphs with the years 1990 to 2005 along x-axis and the numbers of coated steel without cathodic protection main abandonments per year along the y-axis for the Company's service territories in the cities of Springfield, Lawrence and Brockton. Include all work papers, calculations and assumptions used to calculate the number of bare steel mains abandonments per year for each of the cities.

AG-2-47 Create bar graphs with the years 1990 to 2005 along x-axis and Company

number of coated steel without cathodic protection services abandonments per year along the y-axis for the Company's Springfield, Lawrence and Brockton service territories. Include all work papers, calculations and assumptions used to calculate the number of these service replacements per year .

AG-2-48 Provide copies of all prefiled testimony, schedules, exhibits, responses to discovery and settlements related to the "two base rate increases" referenced in the testimony of Stephen H. Byrant, Exh. BSG/SHB-1, p. 9 of 58, lines 15-18.

AG-2-49 Provide copies of all the prefiled testimony, exhibits, responses to discovery and hearing transcripts concerning the Company's depreciation witness from the Company's rate case, D.T.E. 92-11 (1992).

AG-2-50 Provide the total number of miles of coated steel main without cathodic protection in the Company's service territories.

AG-2-51 Provide the total number of cathodically protected coated steel mains in the Companies service territories and the cost per mile for the cathodic protection.

AG-2-52 Has the Company ever conducted a cost / benefit or feasability analysis to determine whether it would be prudent to retrofit the Company's existing bare steel mains and services with cathodic protection? Provide copies of all analyses, including any analysis of retrofitting with an impressed system of cathodic protection.

AG-2-53 Has the Company ever conducted a cost / benefit or feasability analysis to determine whether it would be prudent to retrofit with cathodic protection the Company's existing coated steel mains and services with cathodic protection? Provide copies of all analyses, including any analysis of retrofitting with an impressed system of cathodic protection.

AG-2-54 Has the Company created a system of prioritizing its corroded bare steel mains by segments in order to identify the worst sections of leaking pipe? If yes, please explain this system, including a complete description of factors used for prioritizing the leaking pipe. Include in this response all reports, analyses and employee manuals related to this system from 1995 to 2005.

AG-2-55 Has the Company created a system of prioritizing its corroded coated steel without cathodic protected mains by segments in order to identify the worst sections of leaking pipe? If yes, please explain this system,

including a complete description of factors used for prioritizing the leaking pipe. Include in this response all reports, analyses and employee manuals related to this system from 1995 to 2005.

AG-2-56 Does the Company's SIR program use the prioritizing system(s) described in response to AG-2-54 and AG-2-55 to evaluate and replace the worst segments of pipe first in the Company's service territories? If no, then describe in detail the prioritizing system for leaking pipes used by the SIR program.

AG-2-57 Does the Company's Operations and Maintence ("O&M") program used to repair or replace corroded mains use a prioritizing system in order to identify the worst sections of pipe? If yes, please explain this system, including a complete description of factors used for prioritizing the leaking pipe and scheduling its replacement. Include in this response all reports and analyses related to this system from 1995 to 2005, and identify by name the two Company employees most responsible for rescheduling repairs and replacements of mains for each of the years from 1995 to 2005.

AG-2-58 Will the Company continue to use its O&M program describe in AG-2-57 after 2005?

AG-2-59 Compare and contrast in detail the Company's SIR program pipe prioritizing system with the pipe prioritizing system implemented by Northern Utilities in DR 91-081 (1992).

AG-2-60 Please provide all facts and documentary evidence to support the answer "Yes it has " to the question in the prefiled testimony "Has Bay State been responsible and prudent in its past maintence and repair procedures for its steel facilities?" Testimony of Stephen H. Bryant, Exh.BSG/SHB-1, p. 37 of 58 lines 20-21, p. 38 of 58 line 1. In addition, list what type of Company property is included in the definition of "steel facilities" as used in the quoted question.

AG-2-61 Provide a copy of the CV or resume of Mr. Danny G. Cote and Mr. Stephan H. Bryant.

AG -2-62 When did development of the SIR program start, and when was the program details finalized and adopted? Provide all reports, memorandums and analyses related to the decision to adopt the program.

Date: May 6, 2005.